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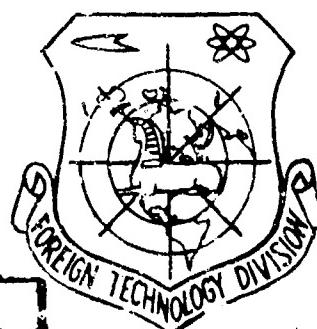
FOREIGN TECHNOLOGY DIVISION



MOSCOW. ALL-UNION INSTITUTE OF SCIENTIFIC AND TECHNICAL
INFORMATION

ORGANIZATION AND USE OF A CENTRAL SPECIAL REFERENCE COLLECTION;
MATERIAL FROM SCIENTIFIC TECHNICAL CONFERENCE.

(SELECTED ARTICLES)



Code 1

CLEARINGHOUSE
FOR FEDERAL SCIENTIFIC AND
TECHNICAL INFORMATION

Hardcopy	Microfiche	18	38
\$1.00	\$0.50	pp	

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UNEDITED ROUGH DRAFT TRANSLATION

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TECHNICAL INFORMATION. ORGANIZATION AND USE
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English pages: 14

SOURCE: Moscow. Vsesoyuznyy Institut Nauchnoy i
Tekhnicheskoy Informatsii. / Sozdaniye i Ispol'zovaniye
Tsentral'nogo Otraslevogo Spravochno-Informatsionnogo
Fonda' Materialy Nauchno-Tekhnicheskogo Soveshchaniya,
Moskva, 1964, pp. 55-59 and 70-73.

TT6000142-143

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FTD-TT- 65-1291/1+4

Date 2 March 1966

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ACCOUNTING SCIENTIFIC-TECHNICAL DOCUMENTATION AS A BASIS OF FULFILLING REFERENCE-INFORMATION FUNDS

A. A. Prikhod'ko

In the USSR, a system of scientific-technical information was created which, regardless of its organizational forms, assures accumulation and edition of information by literature sources. But scientific and engineering workers, creating the new technique, discovered that information by literature sources alone is insufficient. They need information about results of investigations obtained at individual stages of scientific investigation or experimental construction of technical means.

Planned, timely, and systematic information about results of investigations obtained in the process of creating new technology, about the

stages of these works, and about special technical solutions have still not been found. Namely, the absence of such information leads to a parallel execution of work on the solution of the special problems at many organizations. It extends the time of executing these functions and, consequently, slows down the tempo of technical progress. Having no available constant information about peculiar technical solutions already obtained, for example, in the process of constructing machines and devices, the developer may lose much time and strength for the repetition in the execution of work. Furthermore, the solution found by him for any kind of a unit or mechanism may appear to be poorer in comparison with the one which has been found by his colleagues.

In the newspaper, "PRAVDA," of March 23, 1963, it was mentioned that "today's active system of search, preparation, and dissemination of information which is no doubt needed in radical improvement." In our opinion, the main and most principal improvement of a preparation and information propagation system is the creation in the country of a constantly active stream of operational information about the current occupation of scientific-research, construction, and planning organizations.

Each scientific-research, experimental-structural, or planning work is completed by the edition of a reading or edition of a set of technical documentation. Unfortunately, this documentation, as a rule, is left without consideration of the possibility of direct utilization of the same in the role of information material. We speak here about the compounded decades of separation of accountable technical documentation about information.

Separation of the accountable technical documentation from scientific-technical information leads to the point that information about scientific-technical results of investigations is reduced basically only to the announcement of the fact of completing the work or, in the best case, to publishing in an information edition of reading annotations about the completion of the work. The very reading technical documentation is added in a very limited amount of exemplaries, countable in units, and it is difficult to obtain the same.

Many investigative and planning-construction works are fulfilled within a period of several years, and the accounting technical information (documentation) is edited only after all the work has been completed. It is clear that announcements about technical solutions, found at the beginning of the work, to the moment of its completion may lose their value.

Furthermore, the existing form of readings about the NIR and OKR is such that the use of the same for information purposes is very difficult. The fact is, in order to compile an information chart, annotation of reference, the ONTI or BTI apparatus should, in steps, extract informational data from the readings. And if it is considered that accounts on large developments represent voluminous work, the irrationality of this work becomes apparent.

In accounting documentation, only technical solutions are included, adopted for the given work. All intermediate variants, sometimes of greater technical interest, are absent in them. Calculation methods of very many works are not included in the accounts, checking and testing

of units and machine parts or parts of apparatuses; the bases are not given for the selection of this or any other variant. Data about investigations, giving so-called negative results, are also not included in accounting technical documentation.

In this way, separation of the accounting technical dicumentation from scientific technical information leads to a loss of a greater number of valuable information.

Scientific-technical information can be considered complete and reliable only then, when the user will dispose of data about results obtained in the process of executing a scientific investigation, experimental construction, or planning of new technology. Modern developmental information of the developer or investigator of special technical solutions, which can be used in operation, regardless of the fact whether they are positive or negative, will give an enormous economical effect, calculated in billions of rubles.

The source of such information should become the accountable technical documentation.

Consequently, the system of accounting technical documentation should be reorganized so that it should contain data for the supplementation of referential-informational funds. In other words, scientific-technical information about scientific research practices, construction, and planning organizations should be inclueded organically in the set of accounting technical documentation in the form of information charts. Works, the accounting of which contains no full selection of information charts, should not be considered completed.

It is in itself understood that the investigator or developer should loose additional time for the compilation of information data. In order that these data should be maximum full, it is necessary to introduce such an order at which the compilation of information charts should as if taking into account and encouraging. This will offer an additional stimulus to the edition of most complete information about special technical solutions obtained in the process of executing the works.

Apparently, the compilation and edition of author information, its publication in any form of informational publication (information-reference sheet, reference collection, etc) should equal the scientific publication since such an announcement even in reference form always contains the result of original work and original partial solution.

In 1963, the State Committee on coordination of scientific-research operations of the USSR introduced "Instruction about the order of preparing and representing by enterprizes and organizations of scientific-technical sciences, industrial and economical information into the central branch organs of scientific-technical information." The instruction does provide that in "the composition of planning, structural, and technological documentation, as well as in the composition of accounting materials of fulfilled scientific-technical and experimental works should be included references on the work as a whole, into individual parts, having independent values, and also on original technical solutions obtained during the development."

In this way, the first step was made on general state scale to liquidate the separation of accounting technical documentation from scientific-technical information and to assure the possibility of systematic fulfillment of central reference-information funds with data about current work, NII, PKB of enterprises, structural organizations, technical institutions (by unpublished sources). Among these materials should be included information of finished NIR, OKR, PKR, and their stages and parts; about new objects and products, introduced into industry; modernized series objects, about removal from manufacture of old constructions; about technical-economical effectiveness of state standards and norms and conformity of their characteristic technological level; about new technological processes; new materials and introduced rational propositions.

Instruction has one form of such information - information cards and references, periods of their introduction are given its representations in information organs. Particularly important is the point maintaining that the information card appears to be scientific technical information (documentation), prepared at the enterprise (at the organization) by distribution, leading to scientific-technical or planning-construction work. But in this instruction is still not provided for the creation of a single system of accounting documentation; determined is only the order and form of representing information.

In "Modern instruction about the order of compiling accounting technical documentation according to NIR or OKR," developed by NIITEIR, an effort is made not only to detailize the order of representing infor-

mation about current work of NII and KB in the branch, but to normalize and unify the form, structure of accounting technical documentation by transforming the same into informational documentation - basically into an information document.

In the instruction is defined the complex of technical documentation on which is spread the established order: technical accounts on works as a whole; technical accounts (accounts on the development on NIR and OKR stages); partial technical accounts (accounts on the development of parts of complexes, systems, and apparatuses); analytical reviews, bases of selected trends of work and methods; construction and technological documents, provided by MNSCHKH; engineering notes compiled for all original partial solutions.

A partial technical solution is determined in the following manner: "Under original partial solution is understood solution by the investigator, constructor, technologists (or group), partial technical or technological problem which does not have a specific technical task, but promotes the attainment of the general problem, standing before the laborer, and at the same time can be used in other operations (for example, development of a system, unit, accounting method, experiment, testing, technological operation, adaptation, etc.)."

The added to the instruction sample of information card allows to create a card-index without failures of its processing. These cards, appearing to be a purely informational document, belong at the same time also to the group of accounting documents. In the instruction is written that "as the work on the whole, so are its stages considered completed".

only after compiling the corresponding primary accounting documents and the informational charts."

Instruction calls for a proper dissemination of information charts and sets of them by the central reference file card at the NIITEIR and reference-information cards at NII and KB and also for the creation of reference collectors.

Introduction of similar systems in scientific-research, planning, and construction organizations of other state committees and other reports will considerably facilitate the solving of the entire problem on general state scale (general national scale). We should not forget that approximately 70% of the total growth of industrial labor in the country for 20 years should be attained by using newest scientific and technological attainments and this is impossible without properly organized scientific-technical information about results of daily practice of NII, PKB, and other organizations.

EXPERIENCE IN INTRODUCING BRANCH UDK TABLES ON MACHINE CONSTRUCTION

A. A. Leonova

From January 1, 1963, the reference-information fund TSINTIAM is being organized by the universal decimal classifications. On the basis of UDK, the main and special file cards were created (on machine construction industry goods, progressive technological processes, NIR and OKR, of leading materials, etc.).

The UDK can serve as a reliable base for the classification of funds first of all during uniform indexing of all information documents. The success of the work is solved here by a clear coordination of methodical work on the classification of materials; branch information organs should guide themselves by the general method and also by partial (branch) methods

of classifying literature. Deviation from the classification method, in adherence to basic recommendations with respect to classification technology, will unavoidably lead to errors and differentiations which, of course, cannot but hamper search and selection of information.

The experience accumulated by TSINTIAM after adaptation of UDK allows us to point out certain ideas about it, on how to eliminate differentiation in the classification of materials.

First of all, we do recommend to systematically fix the solutions adopted after disagreeable and complex problems, and to record in the tables indices and determinants which, for some reason or other, are not decisively adopted, and also the ones which are used in given chapter. In other words, a better measure for solving this problem is systematic analysis of the indexing practice according to UDK and continuous methodical work on the generalization of this practice.

At the UDK branch of TSINTIAM, a card file was created of solutions of complex indices on problems which found no direct reflection in UDK; for example, the subject "Direct measurement of detail length at lathe machining" obtained the index 621.941.1:531.71.083.1; the subject "Service life of slide bearings" - 621.822.5.004.6; subject "Quality control of welded seams" - 621.791.053:658.562.3 etc. This file card appears to be a secondary working apparatus, enabling to reflect in indices possible and already found solutions of complex problems, and thus, to eliminate differentiation in indexing. The accumulated materials of the file card of solutions will serve additionally to the partial method on machine construction.

Another secondary file card of analyzing indices consists of cards for all indexed reports with indication of name of the report with index adopted to it. The card is placed by a definite devider. This card appears to be as if a "model" of the systematic catalogue, by which it is checked whether monotypical materials are not recorded in various chapters and how are disposed the indexed by UDK file cards in the general fund file card.

For example, the report "Complex mechanization of chill casting" has been submitted to which has been adopted the index 621.74.043.1.002.5. If within such a time interval comes report "Equipment for complex mechanization of chill casting," then checking by the analysis file card, it will obtain this index. In this way, problems of complex mechanization of chill casting will be collected under one index.

Or reports "Improvement of electric holders for point welding" and "New construction of clamps for point welding" will have an index 621.791.763.1.039.001.6, that is the entire material on improved auxilairy devices for point welding will be collected in one place.

Work with analysis file card follows the thing that when placing indices with relation sign in the first place, there would always be an index, reflecting the basic content of the report.

Analysis of the experience of classifying materials by UDK and a check of indices showed that it is necessary to have as a basic manual all branch tables of UDK by chapters 5- and 6th classes and tables of general determinants, published in abbreviated form of UDK All Union Book Office, since indices are often placed without consideration of

mutual relation of problems, reflected in various chapters of UDK. For example, in reference journal "Technology of machine construction, No. 7, 1963, to the report entitled "Hard alloys on titanium carbide base" is given the index 621.9.02 although in the report, the conversation goes about the use of hard alloys for difficulty melting instruments. Actually here are discussed two problems, and it would, therefore, be necessary to give the index 621.9.027.4L661.882.621.

Another example from the very same journal: to report "Studying the strength of drills" was adopted the index 621.951.3, that is only drills have been reflected and the problem of investigating the strength has not been reflected in the index; this report should have been indexed so: 621.951.3:539.4.001.5 (because all strength problems are collected in chapter 539.4).

The index should always be placed by the basic content of the report or book and not by the heading. For example, in reference journal "Technology of Machine Construction" report entitled "New methods of machining materials" was given the index 621.7:621.789.1:621.789.2:621.79. Such a complex index in this case is not at all justified because the basic content of the report belongs to electric spark processings for which there is an index in the UDK system, namely 621.9.018.5.

We will bring still another characteristic example from the very same journal confirming how the classifier can be erroneous, in these cases, when establishing an index he guides himself only by the title of the report. To report "Manual electric drilling machines" was adopted an index 621.313-871, although the object here is not the electrical machine

as such - with manual drive, but about a manual boring instrument with electric drive and consequently, this report should have obtained the index 621.951-83. It is clear that such improper application of UDK brings a disorder when arranging and using the corresponding references in the information apparatus of the fund.

At one sided indexing, important data may be lost for the fund. That is why it is always necessary to use a system of general determinants of all kinds and special determinants to branch departments of UDK and chapter 62.

Finally, for proper indexing, it is absolutely necessary to take into consideration the future disposition of referative or informational card in the main card file of reference-information fund. For example, a report about different types of pumps may have an index 621.651.659, but it can also have an index 621.65, where the general problems of all pumps as a whole do belong. For the main card file, it is better to leave an index 621.65 in order that the general literature on pumps of all types would be selected and collected in one place.

A few words about the role of Notes-P in the improvement (perfection) of branch classification. When developing and improving branch tables, it is necessary not formally, and essentially working with Notes-P and try in these cases, when it is necessary to give based assumptions on this or another edition of Notes-P. For organized operation with Notes-P, it is evident that it is advisable to collect and generalize all notes, originating in the process of becoming acquainted with them, and transmit the

same into the intrainstitutional commission according to UDK.

An increase in classification level of reference-information funds depends, in many respects, upon the activity of the theoretical branch and the classification method GPNTB which should possibly rapidly formulate a general method of classification, and also occupy itself with the improvement of partial methods by classifications of reference information funds.

For full-values utilization of UDK in the systematization of reference-information funds, each information organ should work constantly and thoroughly on the method of its practical application, to attain synonymous solutions when indexing and total opening of possibilities of this system.